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Nurse Educator Scholarly Project (NESP): Final Manuscript

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Care Coordination for Diabetic Patients

Diabetes is the seventh leading cause of death in the United States with nearly 29.1 million people affected (Al-Reubeaan et al., 2016; Center for Disease Control and Prevention [CDC], 2015). Chronic unmanaged diabetes leads to complications such as amputation, visual impairment, infection, stroke, kidney disease, cardiovascular disease, disability, and premature death (CDC, 2015; Joo & Huber, 2012). Individuals with diabetes are twice as likely to die from complications and are at an increased risk of debilitating cardiac events (Al-Reubeaan et al., 2016; Le Feuvre, Jacqueminet, & Barthelemy, 2011). Complications and premature death can be prevented with proper management of blood sugars through medication titration, routine medical care, and education on diet and exercise; all benchmarks assessed by nurse case managers as care coordinators (Watts & Sood, 2016). Care coordination needs to be taught to undergraduate level nursing students who will fill a variety of roles after graduation, including case management.

Background

The number of individuals diagnosed with diabetes increased fourfold between 1980 and 2014, affecting over 29 million people today (CDC, 2015). It is estimated that over 9% of the US population has diabetes and of those individuals over 27% have yet to be diagnosed (Friedell & Jyner, 2015). Education levels influenced the rate of diabetes as individuals with less than a high school diploma were twice as likely to be diagnosed while no difference was noted between high school graduates and college graduates (CDC, 2015). This current upward trend is expected to continue with the rate of diabetes rising 75% by 2025 and affecting an additional 48 million Americans by 2050 (Le Feuvre et al., 2011; Wolber & Ward, 2010).

Diabetes is currently the seventh leading cause of death in the U.S. and the fifth leading cause of death globally (Al-Rubeaan et al., 2016; CDC, 2015). The annual economic cost of diabetes in the US is \$174 billion of which \$116 billion is related to medical costs associated with chronic

complications (CDC, 2015; Joo & Huber, 2012; Wolber & Ward, 2010). Diabetic patients experience half of newly diagnosed blindness, lower extremity amputations, and kidney failure related dialysis (Friedell & Jyner, 2015). Patients diagnosed with diabetes are twice as likely to die from an all-cause death, and nearly 75% of the population's deaths are related to coronary artery disease (Al-Rubeaan et al, 2016; Le Feuvre et al, 2011). Over time, macrovascular and microvascular damage along with hypertension and elevated cholesterol puts diabetic patients at an increased risk for strokes and myocardial infarctions (MI) (Khoury et al., 2013; Le Feuvre et al, 2011). General mortality doubles in individuals with diabetes for greater than 10 years (Al-Rubeaan et al, 2016). In individuals with HbA1Cs above 7%, every 1% increase is associated with a 38-40% higher risk of a vascular event and a 37% increased risk of death (Zoungas et al, 2012). Proper management, early identification, and initiation of treatment after diagnosis can prevent avoidable complications and halt progression of disease processes.

Literature Review

Care coordination by a registered nurse case manager (RNCM) has been shown to improve outcomes and prevent adverse complications in diabetic patients. Case management is defined as a collaborative process that includes assessing, planning, facilitating, care coordinating, evaluating, and advocating for an individual to assure that the health needs of the individual and family are met (Joo & Huber, 2012). The specific role of the RNCM includes setting goals related to weight loss, diet modification, increasing physical activity, and minimizing other risky behaviors such as alcohol consumptions and smoking (Ishani et al., 2011). A ten year study revealed that RNCMs also played a critical role in improving blood sugar control through medication titration and education (Watts & Sood, 2016).

With the use of RNCMs, patients have improved outcomes and enhanced self-management skills. Individuals who receive care coordination from a registered nurse (RN) significantly reduce

their HbA1C levels, lipid levels, and baseline blood pressures (Ishani et al., 2011; Joo & Huber, 2012; Watts & Soodm 2016; Wolber & Ward, 2010). Participation in a care coordination program led to individuals gaining over \$10,141 in quality-adjusted life expectancy (QALY) (Joo & Huber, 2012). Joo and Huber's (2012) study also showed a significant increase in patients' satisfaction with diabetes treatment that correlated with the duration of a RNCM's involvement.

Considering that nurses will continue to be involved with care coordination roles in diabetes education and behavioral goal setting in primary care and inpatient settings, a strong acute and chronic diabetes education is crucial (Watts & Sood, 2016). The following examines theoretical approaches for teaching care coordination associated with diabetes management to undergraduate nursing students in a baccalaureate program.

The Constructivist Learner

The constructivist learning theory states that new knowledge is constructed by the learner through the application of past knowledge to new experiences (Candela, 2016; Hoy, Davis, & Anderman, 2013). Learners actively seek meaning in their experiences and need to understand, memorize, and apply the information learned in class (Candela, 2016; Hoy et al., 2013). Typical teaching strategies include problem-based teaching and cooperative learning which allows for students to apply knowledge while the inclusion of lecture provides the students with new information to set the foundation for learning (Cranton, 2012; Hoy et al., 2013). Discussion provides an opportunity for the student to engage in the learning experience, enhancing the student's ability to apply meaning to new experiences (Hoy et al., 2013). Additionally, discussion and group work exposes biases and beliefs that students may have acquired from past experiences; thus, enhancing self-awareness (Stewart & Alrutz, 2012; Ugar, Constantinescu, & Stevens, 2015). Finally, reflection allows students to evaluate past experiences and apply

historical feelings and emotions to new ideas such as care coordination (Kharb, Sarem, & Hamidi, 2013).

The Humanistic Learner

Humanistic learning is based on three principles: (1) individual self-worth; (2) feelings as an important fact; and (3) personal, moral, and social development (Kharb et al., 2013).

Humanistic learning also occurs in three stages: creating a foundation for students to anticipate experience, exposing students to the experience, and assisting students in interpreting the experience (Ganzen & Zauderer, 2013). The humanistic approach to learning and teaching is structured around the belief that what individuals are able to feel and experience can then be projected onto individuals they encounter (Khatib et al., 2013). The educator functions as the facilitator exposing students to learning experiences and creating a structured, safe environment for learning (Ganzer & Zauder, 2013; Ugar et al., 2015). Additionally, the educator through the creation of a safe environment and use of silence, emphasizes the importance of thoughts, feelings, and emotions (Khatib et al., 2013). For learning to occur, the learner needs to be able to focus on themselves, their own practice, and think critically (Khatib et al., 2013; Ugar et al., 2015). The educator, through the incorporation of group discussions, creates opportunities for social interaction that promotes reflection (Khatib et al., 2013). The structure within lecture, case study presentation, and discussion eases anxiety associated with new experiences, promoting a safe culture for students to reflect on experiences (Ganzen & Zauderer, 2013).

Learner Assessment Method and Evaluation

Assessment of the learning is crucial in informing future course development and evaluating learning outcomes, effectiveness of teachings, and to solicit feedback on the course (Dikes et al., 2012; Sabag & Kosolapov, 2012; Wiggins & McTighe, 2005). Questionnaires

evaluate the cognitive domain, while group discussions and group activities assess psychomotor skills (Cranton, 2012). Lastly, reflection papers allow students time to evaluate their practice and connect past experiences to create meaning of the knowledge gained from the teaching session (Candela, 2016). Reflection assesses the affective domain and evaluates the student's insight into personal biases, attitudes, and beliefs (Cranton, 2012; Uger et al., 2015).

Educational Resources

Resources are needed to support a successful teaching session and a positive learning environment. Internal resources include classroom space, equipment, online learning platform access, print material, and a flexible classroom space. External resources needed to execute the teaching plan include journal articles, course textbook, video access, and curricular standards, all of which will help inform the students and guide the development of the course. Lack of access to any of the above resources could hinder the execution of the teaching session's overall success. The opposite is also true, an excess of resources may pose barriers in the classroom as it can distract from learning and require additional time to train students and staff (Scheckel, 2016). Resources used for the teaching session included: classroom space, computer with projector and audio equipment, white board, and printing supplies for the case study and care plan.

Methods

Learning Outcomes

The purpose of the project was to educate senior-level, undergraduate nursing students, enrolled in a population health course, about care coordination to improve health outcomes for individuals with chronic diabetes. Four learning outcomes were chosen to address the cognitive, affective, and psychomotor learning domains. To address the cognitive domain, students prioritized the five essential steps to care coordination and identified a situation in which a

patient with diabetes would need care coordination. Within the affective domain, students shared reflections on current gaps in personal and observed practices around discharge assessments. Finally, after the teaching session, as part of the psychomotor domain, groups of students demonstrated outlining a care plan for a patient with chronic diabetes and associated complications.

Teaching Strategies

Prior to attending class, the students were expected to complete the assigned in-text and online readings about care coordination, chronic diabetes, and complications related to long term diabetes. At the beginning of class, the students watched a brief two-minute video on care coordination. Following the video, the class participated in a group discussion and identified key concepts that define care coordination (see Teaching Plan in Appendix A). A lecture followed that included a brief review of diabetes with related complications, definitions about care coordination, a review of the essential steps of care coordination, discharge assessment areas, and care plan writing. The students participated in a low fidelity case study in which they assessed a patient with diabetic complications for care coordination needs, completed the essential steps taught in the course, and created a care plan for the patient. At the end of the course the students revisited the introduction video to consider modifying their initial definition of care coordination and key concepts.

Learner Evaluation Method

Evaluation of learning occurred through the use of a pre-test and post-test questionnaire (see Appendix B). Students completed the pre-test at the beginning of a 90 minute teaching session while a post-test was given at the end of the session. Short answer questions within the questionnaire asked the student to define care coordination, list essential steps of care

coordination, and identify key individuals involved in the coordination process (see Appendix B). A multiple choice question asked students to identify the moment an intervention should occur (see Appendix B). The mean results from the group questionnaires were analyzed using a paired *t*-test to assist the instructor in evaluating the overall progression of learning. Students also completed a one-minute reflection at the end of the course that evaluated the student's affective learning (see Appendix C). To evaluate the psychomotor domain, groups of students demonstrated creations of a care plan for a diabetic patient based on the case study.

Evaluation of Teaching Effectiveness

The students were asked to complete a questionnaire at the end of the course to evaluate the effectiveness of the teaching session. The questionnaire, based on a Likert-type scale (1 = strongly disagree and 5 = strongly agree), rated the instructor's ability to transfer knowledge, clearly present information, answer questions, and assess the student's perception of the session's benefit (see Appendix D).

Results

Twenty-one students participated in evaluation activities. Overall, the results demonstrated an increased understanding of care coordination definitions, essential steps, and processes required to manage patients with chronic diabetes. The results also indicated an increase in confidence levels related to the student's ability to create a care plan to manage diabetic complications. Additionally, students reported on how their increased knowledge in care coordination affects clinical practice. Lastly, students agreed that the instructor provided a valuable learning experience by creating an environment that promoted learning, set clear expectations, communicated effectively, and answered all questions.

Learner Outcomes

Cognitive. The cognitive domain of learning was assessed by evaluating the students' understanding of core care coordination principles. The results demonstrated an increase in cognitive understanding. Average scores in the pre-session questionnaire were 5.33 out of 11 and post-session scores were 7.52, an increase of 2.19 points. A paired *t*-test revealed a significant increase in understanding with $p < 0.0001$ (see Appendix G). Additionally, students were asked to assess a diabetic patient for care coordination needs within a low-fidelity case study (see Appendix E). Students completed this assignment in small groups and on average identified 9.28 of the 11 risk factors in need of intervention. Students were also able to identify, on average, 14.43 questions to ask the patient to further assess for care coordination needs.

Psychomotor. An assessment of the students' psychomotor learning was conducted through demonstrating the creation of a written care plan (see Appendix F). Of the twenty-one students that completed the group assignment, 75% displayed accurate and comprehensive care plans. Two groups were unsuccessful in assembling appropriate interventions for the patient based on diagnoses and patient characteristics. Students who illustrated complete care plans were able to determine the need for enhance diabetes and hypertension management based on elevated readings in the clinic. Students' were expected to initiate an intervention by developing SMART outcomes and an evaluation plan, indicators of a thoroughly completed care plan.

Affective. The students completed a one-minute reflection question as an evaluation of affective learning (see Appendix C). Nineteen students (90.48%) who completed the reflection were able to share an example of an experience with care coordination along with three examples of how they will incorporate care coordination into future practice. One student was unsuccessful in discussing current practice and only formulated two examples of future practice

while another student didn't report on the reflection question. Students' confidence levels pre- and post teaching session were assessed. The average confidence level prior to teaching session was 5.95 (1.71) out of 10; while the post-session confidence level was 7.85 (1.72). Students reported personal growth in confidence levels by an average of 1.9 points.

Evaluation of Teaching Effectiveness

A teaching effectiveness questionnaire was distributed at the end of the teaching session (see Appendix D). Students rated the instructor on a Likert-type scale (1 = strongly disagree and 5 = strongly agree) for the value of experience, promotion of learning environment, expectations, communication, and ability to answer questions. The majority of students either agreed or strongly agreed that the instructor promoted a learning environment, communicated effectively, and was able to answer student's questions. One student neither agreed nor disagreed that the instructor was clear in their expectations (see Appendix H). Total mean score of teaching effectiveness was 4.74 (0.44) out of 5.

Discussion

Nearly all students met cognitive, psychomotor, and affective learning outcomes. Even though there was statistically significant improvement in cognitive learning, there was one student who scored lower on the post-session questionnaire than the pre-session and two students who did not improve their scores. There were also no students who received 100% on the post-session questionnaire. Most students missed points on question two which was related to understanding the new framework (see Appendix B). Students' answers were based on a framework learned from prior nursing courses which is an indication of the need to challenge and recognize pre-existing assumptions about care coordination. Furthermore, students identified an average confidence level prior to the teaching session as 5.95 (1.72) on a 10 point scale, with

three students rating an 8 or above; thus, indicating confidence in prior knowledge.

Constructivist learning relies on past knowledge to construct new experience; however, students must value the need for new applications of knowledge (Hoy et al., 2013).

Twenty-five percent of students were unable to demonstrate completion of a comprehensive care plan which included: illustrating the patient, documenting diagnoses and current state of health conditions, designing SMART outcomes for diabetic management, constructing an implementation plan, and make an evaluation plan. Students who did not demonstrate completed care plans were unable to design SMART outcomes for diabetes management. Students' outcomes were targeted at addressing language and transportation barriers identified from the patient scenario, not diabetes. An explanation could be the vagueness in the instructions to the students. According to Bourke and Ihrke (2016), questions and instructions for evaluation should be clear and concise. The students were asked to identify two outcomes, but the instructions for the care plan did not specify related to diabetes management, which could explain students' choice to develop outcomes to address barriers related to language and transportation (see Appendix F).

Two students did not complete the one minute reflection question, either omitting parts of the question in their answer or not answering the question at all. Possible explanations are that the reflection question was offered at the end of a three hour course and among a group of several questionnaires. Students could have been fatigued or unmotivated to the assignment due to the lack of associated grade with the reflection. The theory of active learning indicates that activities associated with graded outcomes increase student motivation, participation, and time spent outside of class reviewing content (Sabag & Kosolapov, 2012). Additionally, the reflection

could have been from the students who started with high confidence levels; thus, unable to identify areas in need of practice improvement.

In regards to teaching effectiveness evaluations, students generally agreed or strongly agreed that the instructor was clear, communicative, and provided a valuable learning experience. The positive evaluation may indicate that the students appreciated the diverse learning strategies that included video, lecture, case study, and group sharing, appealing to a variety of learning styles (Scheckel, 2016). To speak to the one student who expressed ambivalent feelings towards the effectiveness of the instructors teaching, this could be related to the lack of clarity in the PowerPoint slide that the lecture agenda was also the expectations for the session.

Limitations

The primary limitation of the study was time. Care coordination is a new concept to students' practice outside of an acute care setting. Even though all content was covered in 90 minutes, there was not enough time to provide a thorough analysis of content topics. Additionally, there was limited time to discuss the students' assumptions coming into the course regarding care coordination and to challenge prior assumptions. Lastly, there was not an opportunity to evaluate students' retention of care coordination concepts over time or the students' ability to implement concepts into clinical practice.

Lesson Learned

During the implementation of the teaching project, several lessons were learned. First the importance of understanding a student's innate reaction to revert to comfortable topics and concepts when challenged with new ideas. Traditional pedagogical learning incorporates repetition which allows for saturation of content, but potentiates rigidity and inability to apply

learned concepts in new situations (Stewart & Alrutz, 2012). The humanistic approach towards learning is focused on motivating and inspiring students to grow and to learn new topics (Khatib et al., 2013). The educator needs to be aware of the desire to use tools that are familiar and encourage expansion of thinking through challenging assumptions and preconceived ideas of knowledge application (Khatib et al., 2013).

Additionally, care coordination is a new topic and new practice area; thus, there was too much new content covered in one session. Students should have received the content over several small sessions with the educator facilitating progression through Bloom's Taxonomy of learning (Ugur et al., 2015). As student's progress through levels of cognitive understanding they are able to build upon basic knowledge to perceive complex concepts such as care coordination (Cranton, 2012; Ugur et al., 2015).

The last lesson learned was the importance of student engagement when teaching. As care coordination is an interdisciplinary collaborative process, having students participate in activities that required collaboration promoted discussion and critical thinking. There were moments in the teaching session that were challenging when student participation was minimal and the educator was unsure how to elicit participation. What is also challenging is finding the balance between educator led discussions and student led discussions. According to Hoy, Davis, and Anderson (2013), when students are allowed to guide learning experiences it increases the meaning and value in the experiences while enhancing student's ability to construct new knowledge.

Recommendations

Care coordination plays an integral part in improving patient outcomes, preventing adverse outcomes, enhancing self-management skills, improving quality of life, and increasing

patient satisfaction. Care coordination can be applied to patients with chronic diabetes who are experiencing complications; however, care coordination is a universal concept for any individual experiencing an illness (Scholz & Minaudo, 2015). Care coordination theories and concepts should be taught early in the curriculum to allow students to develop an understanding of the care coordination framework. As demonstrated by this study, 90 minutes is not sufficient time to discuss existing knowledge, existing assumptions, provide education on care coordination framework and challenge assumptions. Care coordination concepts should be threaded throughout the curriculum to create opportunities for application of content into clinical practice. The idea is to introduce care coordination early in education as the norm rather than the exception; thus, student can build on knowledge as part of basic skills within constructivist learning (Candela, 2016). As students begin to learn about episodes of acute illness, discussion of disease management and care outside of the hospital should occur. As part of communication courses, students should learn about developing relationships and collaborative skills with patients, families, and interdisciplinary providers. There should be allotted time for lecture by the educator to present content and time for student discussion to build meaningful experience and expose biases and beliefs about content (Scheckel, 2016; Stewart & Alrutz, 2012).

Profound learning occurs when students are able to take concepts and integrate them into values and experiences (Ugur et al., 2015). Alongside early introduction in the classroom, care coordination should be a part of the clinical practicum. As a clinical outcome, students should be expected to complete a hand-off to a provider caring for the patient in their next setting. The process of integrating clinical outcomes and classroom outcomes aligns with cognitive-affective transformation as the experience allows for integrations of new information with student's experiential histories (Ugur et al., 2015). Lastly, it is recommended that a variety of teaching

strategies should be incorporated in teaching sessions to assure that diverse learning styles or preference are met.

There is limited research on when and how to best provide education on care coordination. Future research should examine at which point in an undergraduate nursing curriculum care coordination principles should be taught. Additional investigation is needed regarding how much new content should be delivered in a single teaching session to prevent overwhelming students. It would be beneficial to conduct an assessment of long term retention of education material in students who receive content on care coordination. Lastly, future research should be structured to examine the impact of integrated care coordination clinical practicum.

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Appendix A
Teaching Plan

Teaching Plan Title: Care Coordination for Diabetics

Purpose: To teach undergraduate nursing students about care coordination for patients with chronic diabetes with associated complications

Goal: Students will be able to define care coordination terms, prioritize steps of care coordination, and identify gaps in their current care coordination practices.

Learning Context/Environment: In person to a group of senior level nursing students in a Population Health course.

Project Outcomes (knowledge domain level)	Learning Theories to support project focus	Content Outline with key concepts	Teaching strategies & Learning activities for key concepts)	*Simulation & Debriefing Plans (NESP only)	Session Resources for anticipated class enrollment	Method of Learner Assessment & Evaluation
<p>Cognitive</p> <ul style="list-style-type: none"> By the end of the teaching session, students will be able to prioritize five essential steps to care coordination. Students will be able to identify one situation in which a diabetic patient would need care coordination by the end of the course. <p>Affective</p> <ul style="list-style-type: none"> Students will be able to reflect on current practice gaps in patient discharge assessments they 	<ul style="list-style-type: none"> Constructivist learning theory: The learner constructs new knowledge by building on pre-existing knowledge and past experiences in an attempt to make sense of the new experience (Candela, 2016). Learners are actively seeking meaning in their experiences (Candela, 2016). Students will be incorporating prior experience with diabetic patients and management of complications related to the chronic disease to understand gaps in care. 	<ul style="list-style-type: none"> Brief review of diabetes and related complications Discuss literature around care coordination and definitions Introduction to the essential steps of care coordination Introduction to discharge assessment tools. Review of when tools and assessments are appropriate. Demonstration of care plan writing. 	<p>Pre-Class: 45 minutes</p> <ul style="list-style-type: none"> Students will review video about care coordination Complete reading related to topic <p>In class: 90 minutes</p> <ul style="list-style-type: none"> Pre-session questionnaire to establish baseline knowledge (5 minutes) Introduction to care coordination concepts, definitions, and relevance. Discuss key steps to care coordination. (30 minutes) Provide case study to students who will 	<ul style="list-style-type: none"> A low fidelity simulation case study involving a complex diabetic patient at time of discharge will be utilized for students to assess for needs and create a care plan. A debrief and time for reflection will follow case study. 	<ul style="list-style-type: none"> Physical: Classroom, table, chairs, printer, paper resources for case study, white boards, and markers. Technical: Computer with internet connection and projector. Online: Moodle access for pre- and post- test 	<ul style="list-style-type: none"> Pre-test prior to class to assist in identifying areas in need of additional emphasis or focus. This will also help establish a baseline of the students' insight into care coordination. Post-test to evaluate learning outcomes, effectiveness of teaching, and feedback on what needs to be changed (Wiggins & McTighe, 2005). Reflection papers will allow students

<p>have witnessed by the end of the session.</p> <p>Psychomotor</p> <ul style="list-style-type: none"> • At the end of the teaching session students will be able to outline a care plan for a patient with chronic diabetes and associated complications. 	<ul style="list-style-type: none"> • Humanistic approach to learning: Educators promote dignity and values in the student that then is projected onto the individuals they care for (Candela, 2016). The students will be reflecting on personal practice and observed practices of other nurses. Based on those experiences students can gain a sense of responsibility and mutual respect with clients. 	<ul style="list-style-type: none"> • Practice with a case study • Debrief on experience, issues, and concerns. 	<p>work in a group to complete an assessment (10 minutes)</p> <ul style="list-style-type: none"> • Debrief and review assessment findings (5 minutes) • Describe care plan and define essential components (10 minutes) • Provide case study, students will work in groups to create care plan (10 minutes) • Debrief and review care plans (5 minutes) • Student reflections on experience and identification of gaps in current practice (5 minutes) • Post-test questionnaire on key steps, definitions, and prioritization (5 minutes) 			<p>time to evaluate their own practice and connect new information to past experiences to find meaning to the knowledge gained (Candela, 2016). Students at the beginning level will at least become aware of value, beliefs, and attitudes that would affect their approach to care coordination (Cranton, 2012).</p>
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Plan for potential issues, problems, and barriers: Potential issues and problems include technical difficulties that can limit the educator’s access to content material and PowerPoint, and the students’ ability to access pre-assigned readings and the pre- and post-test. To prevent technical errors, the educator needs to test all components including physical equipment and student access on the Moodle page. The main barrier to the session is student engagement. To prevent barriers, student teaching strategies that include lecture, videos, visuals aids, a case study, group discussion, and individual reflections will target a large group of learning styles.

Appendix B
Learner Assessment Tool: Care Coordination for Diabetic Patients
Pre and Post-Session Evaluation

Pre-Test	Post-Test
<p>1) In your own words, define care coordination.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>2) List the five essential steps to care coordination:</p> <p>a. _____</p> <p>b. _____</p> <p>c. _____</p> <p>d. _____</p> <p>e. _____</p> <p>3) When should care coordination start?</p> <p>a. When the doctors have selected a discharge date</p> <p>b. When a patient or family request for assistance with diabetes management</p> <p>c. When the patient is first presents to the clinic or hospital</p> <p>d. When the nurse first identifies there is a care coordination need</p> <p>e. When a referral is made to the nurse case manager</p> <p>4) Please list who should be a part of the care coordination process:</p> <p>a. _____</p> <p>b. _____</p> <p>c. _____</p> <p>d. _____</p> <p>5) On a scale of 1 to 10 how CONFIDENT are you in your ability to create a care plan for a patient with diabetes and its associated complications?</p>	<p>1) In your own words, define care coordination.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>2) List the five essential steps to care coordination:</p> <p>a. _____</p> <p>b. _____</p> <p>c. _____</p> <p>d. _____</p> <p>e. _____</p> <p>3) When should care coordination start?</p> <p>a. When the doctors have selected a discharge date</p> <p>b. When a patient or family request for assistance with diabetes management</p> <p>c. When the patient is first presents to the clinic or hospital</p> <p>d. When the nurse first identifies there is a care coordination need</p> <p>e. When a referral is made to the nurse case manager</p> <p>4) Please list who should be a part of the care coordination process:</p> <p>a. _____</p> <p>b. _____</p> <p>c. _____</p> <p>d. _____</p> <p>5) On a scale of 1 to 10 how CONFIDENT are you in your ability to create a care plan for a patient with diabetes and its associated complications?</p>
<p>Not at all confident Very Confident</p> <p>1 2 3 4 5 6 7 8 9 10</p>	<p>Not at all confident Very Confident</p> <p>1 2 3 4 5 6 7 8 9 10</p>

Appendix C
Reflection Question

After learning about care coordination, reflect on what you have experienced related to care coordination in outpatient or inpatient clinical sites. How will your nursing practice change in future clinical experiences related to your knowledge about care coordination? Please list 3 examples.

Appendix D
Evaluation of Teaching Effectiveness Tool

For each of the following questions, circle the response that best characterizes how you feel about the statement.

1= Strongly Disagree

5= Strongly Agree

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strong Agree
This was a valuable learning experience	1	2	3	4	5
The instructor created an environment that promoted learning	1	2	3	4	5
The instructor was clear in their expectations	1	2	3	4	5
The instructor was an effective communicator	1	2	3	4	5
The instructor answered all of my questions	1	2	3	4	5

Appendix E
Low-Fidelity Case Study

Scenario:

Alex is a 68 year old diabetic patient. Alex moved from Wyoming to Oregon four months ago to be closer to nature. Alex lives in an apartment with two roommates and volunteers at the local animal shelter. Alex has been in the emergency room two times in the last month for a non-healing ulcer on the bottom of Alex's foot. Alex reports taking the following medications at home: insulin, metformin, lisinopril, hydroxyzine, and aspirin.

Based on the information provided:

How many medical risk factors did you identify? _____

What questions would you ask the patient about their medical care? Why?

How many patient characteristics did you identify as a risk factor? _____

What questions would you ask the patient about themselves? Why?

How many social risk factors did you identify? _____

What further questions do you have about the patient social situation? Why?

What care coordination needs have you identified?

Appendix G
Pre- and Post- Session Evaluation Findings

Table 1
Paired t-Test Session Evaluation Findings

	Mean	Standard Deviation	t-stat	df	P Value
Pre-Session Evaluation	5.33	1.71	-4.69	20	=0.0001*
Post-Session Evaluation	7.52	1.72			

Notes. Evaluation scores measured on a point scale of 0-11, based on correct number of responses. * Significance indicated by $p < 0.05$

Table 2
Paired t-Test Session Evaluation Findings – Confidence Levels

	Mean	Standard Deviation	t-stat	df	P Value
Pre-Session Confidence	5.95	1.74	-6.71	20	<0.0001*
Post-Session Confidence	7.85	1.24			

Notes. Confidence measured on a Likert scale of 1-10, where 1 is not at all confident and 10 is very confident. * Significance indicated by $p < 0.05$

Appendix H
Evaluation of Teaching Effectiveness Findings

Table 3
Teaching Effectiveness Findings

	Mean (SD)	Neither Agree or Disagree	Agree	Strongly Agree
Instructor provided valuable learning experience	4.48 (0.51)		52.4%	47.6%
Environment promoted learning	4.81 (0.4)		19%	81%
Instructor provided clear expectations	4.67 (0.58)	4.8%	23.8%	71.4%
Instructor was an effective communicator	4.86 (0.36)		14.3%	85.7%
Instructor answered all questions	4.86 (0.36)		14.3%	85.7%

Notes. Scores measured on a Likert type scales where 1 indicated strongly disagree and 5 strongly agree with statements. * SD = Standard Deviation